

REMARKS

Independent claims 10 and 24 are amended to clarify the invention, and claims 11, 35, and 36 are cancelled. Claim 10 is amended to include the limitations of now-cancelled claim 11 and further amended to clarify that the I/O structures of the present invention are not suggested by the prior art as explained below. Dependent claims 13 and 26 are amended for consistency with the amended base claims. New dependent claims 37-40 are added to further claim the invention, with example embodiments described in paragraph [0031]. The new claims are thought to be patentable because they depend from patentable base claims as explained below.

No further search should be required since the limitations of claim 11 have already been searched, and the limitations of claim 11 are now included in amended claims 10 and 24. Furthermore, the other limitations added to the claims further clarify those limitations that have already been considered and substantively examined. Therefore, Applicant respectfully requests that the Amendment be entered and the case allowed since no further searching should be required.

Claims 10, 12-16, 24-26, 28-29, and 37-40 remain for consideration, and reconsideration and allowance of the application are respectfully requested.

The rejection of claims 10-16, 24-26, 28-29, and 35-36 as being anticipated by Landhammer (US Patent 6,538,470) is respectfully traversed because all the limitations are not shown to be taught by Landhammer.

The amendments to the independent claims clarify that the claimed columns of IO blocks are not taught by Landhammer. For example, in claim 10, the claim limitations specify that at least one of the first, second, and third circuit types is an Input/Output Block (IOB) type, and each circuit element of an IOB type provides a circuit interface to circuitry external to the integrated circuit where the column of IOB type circuit elements is between two columns that are not columns having IOB type circuit elements. An example embodiment for these limitations is shown in FIG. 4 and described in the specification in paragraphs [0006, 0024, 0029]. The cited portions of Landhammer do not suggest that each element of an IOB circuit type in a column of IOB circuit types provides an interface to circuitry external to the integrated circuit and that the column of IOB type circuit elements is between two columns that are not

columns having IOB type circuit elements.

Neither Landhammer's input/output interfaces 120 nor blocks of input/output interface circuitry 128 correspond to the claim limitations. Landhammer's drawings and description show that it is only the input/output interfaces 120 that support communicating with circuitry external to the PLD (FIG. 5; col. 15, l. 35-36), and these input/output interfaces are only shown as being on the periphery of the PLD. Landhammer's input/output interfaces 120 are not between other columns of other types.

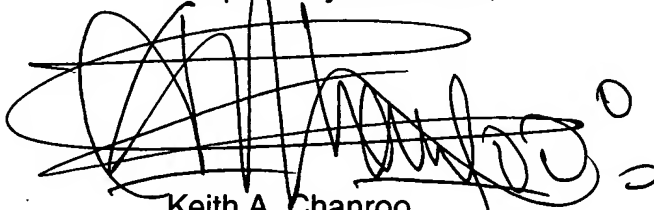
Landhammer's column of blocks of input/output interface circuitry (FIG. 6, 9, #128) do not correspond to the claimed column of IOB type circuit elements. Landhammer's FIG. 6 shows a column of blocks of input/output interface circuitry 128 that is associated with the DSP block 110, where each block of the interface circuitry provides I/O for the DSP circuitry in that particular row. There is no suggestion that Landhammer's blocks of I/O interface circuitry 128 provide any interface to circuitry external to Landhammer's PLD 106. Landhammer apparently leaves the communications with external circuitry to the input/output interfaces 120 that are located at the periphery of the PLD since both FIGs. 6 and 9, which have the blocks 128, are described as subsets of FIG. 5, which has the input/output interfaces 120. Therefore, it can be seen that Landhammer's input/output interfaces 120 are not in a column between different types of columns, and Landhammer's blocks of input/output circuitry 128 do not provide an interface to circuitry external to the PLD.

Independent claim 24 includes similar limitations and is not shown to be anticipated for the reasons set forth above. Claims 12-16, 25-26, 28-29 depend from base claims 1 and 24 and are also not shown to be anticipated. The rejection of claims 10, 12-16, 24-26, 28-29, and 35-36 should be withdrawn because the Office Action does not show that Landhammer teaches all the claim limitations.

CONCLUSION

Reconsideration and a notice of allowance are respectfully requested in view of the Amendments and Remarks presented above. If the Examiner has any questions or concerns, a telephone call to the undersigned is invited.


Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to read 'Keith A. Chanroo'.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on October 19, 2006.

Pat Tompkins
Name


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